

What is claimed is:

1. A method of growing muscle tissue on preexisting mechanical structures in such a way that the tissue is firmly anchored to the structure yet free to contract, and a method of generating electrical power from muscle tissue, comprising:
 - fabricating a MEMS device incorporating an anchor which favors muscle attachment;
 - recurring muscle tissue to said anchor; and
 - detecting muscle motion at said MEMS device by generating a corresponding electrical signal.
2. The method of claim 1, wherein fabricating said anchor includes shaping said MEMS device to produce a structural feature for receiving a fastener to connect said tissue to said anchor.
3. The method of claim 2, wherein fabricating said anchor includes shaping said MEMS device to provide a loop for receiving said fastener.
4. The method of claim 1, wherein securing muscle tissue to said anchor includes assembling said muscle tissue to said anchor.
5. The method of claim 1, wherein recurring muscle tissue to said anchor includes self-assembling said muscle tissue on said anchor.
6. The method of claim 5, wherein self-assembling said muscle tissue includes growing muscle tissue on said anchor.
7. The method of claim 6, wherein self-assembling said muscle tissue includes differentially treating said MEMS device to limit the growth of muscle tissue to selected regions of said MEMS device.
8. Apparatus for producing electrical signals from muscle tissue, comprising:
 - a microelectromechanical structure comprising a substrate and a released structure relatively movable with respect to said substrate;

an anchor on said released structure for receiving muscle tissue; and

a motion sensor responsive to motion of said anchor produced by muscle contraction for producing a corresponding electrical signal.

9. The apparatus of claim 8, wherein said anchor includes means for assembling said tissue to said released structure.

10. The apparatus of claim 9, wherein said means from assembling comprises an aperture for receiving a tissue fastener.

11. The apparatus of claim 8, wherein said anchor includes means for self-assembling said tissue to said released structure.

12. The apparatus of claim 11, wherein said means for self-assembling comprises differentially treated portions of said microelectromechanical device to promote the growth of said tissue on selected regions of said devices.

13. The apparatus of claim 12, wherein said differentially treated regions include a growth-supporting material on said selected regions.

14. The apparatus of claim 13, wherein said growth-supporting material is a polymer.

15. The apparatus of claim 13, wherein said differentially treated regions are located on both said substrate and said released structure to permit said tissue to span between said selectively movable substrate and released structure to enable contraction of said tissue to produce relative motion therebetween.